Amendments to the Claims

1 1. (currently amended) A method for maximizing residual power along

2 routes in a wireless network including a plurality of battery operated nodes,

3 comprising:

4   discovering a plurality of routes from a destination node to a source

5 node via intermediate nodes of the network using dynamic source routing

6 (DSR);

7   measuring a residual power in the battery of each intermediate node;

8   determining a power cost associated with each route according to the

9 residual power of the intermediate nodes;

10   selecting a particular route for transferring data from the source node

11 to the destination node, the particular route having a least power cost;

12   including the particular route in a routing table in a packet, in which

13 the routing table is an ordered list of intermediate node addresses;

14   determining a delay cost associated with each route;

15   selecting a particular route having a least delay cost; and

16   including the least delay cost in each transmitted packet; and

17   transmitting each packet in the network using the DSR, and in which

18 each packet includes the routing table.

      2. (cancelled)

1 3. (currently amended) The method of claim 1, further comprising:

2   associating a time of discovery with each route; and

3   selecting the particular route having a most recent time of discovery;

4 and

5   including a time stamp indicating the time that the particular route

6   was discovered in the routing table in each transmitted packet.

1   4. (original) The method of claim 1, in which the network is ad-hoc.

1   5. (previously presented) The method of claim 1, further comprising:

2   storing a routing table in each node.

1   6. (original) The method of claim 1, further comprising:

2   quantizing the residual power to a power level to determine the power

3   cost.

1   7. (original) The method of claim 6, further comprising:

2   participating in the route if the power level is a least power level;

3   not participating in the route if the power level is a highest level; and

4   participating in the route if the power level is an intermediate power

5   level, and increasing the power cost according to the power level.

1   8. (original) The method of claim 6, in which an initial power of an nth node

2   is E joules, and the residual power in the nth node at time t is $R(t)$ joules, and

3   the power cost for using n^{th} node as an intermediate node is $P(n)$, and the

4   power level $L(t)$ of the nth is determined by

5   if $R(t) \leq E * \alpha$,   then $L(t) = 3$;

6   else if $E * \alpha < R(t) \leq E * \beta$,   then $L(t) = 2$;

7   else if $E * \beta < R(t) \leq E * \gamma$,   then $L(t) = 1$;

8   else $L(t) = 0$.

9   where α, β, and γ are numbers less than 1.0 and monotonically increasing

10   according to $\alpha < \beta < \gamma$.

9. (cancel)

1   10. (currently amended) The method of claim 1, in which the discovering

2   uses ad-hoc on-demand distance vector routing, and <u>includes</u> ~~including~~ the

3   routing table in each transmitted packet.

1   11. (currently amended) A method for maximizing residual power along

2   routes in a wireless network including a plurality of nodes, each node having

3   an address and a battery, comprising:

4   broadcasting a request packet, the request packet including the address

5   of a source node and the address of a destination address using dynamic

6   source routing (DSR);

7   receiving the request packet in an intermediate node;

8   measuring a residual power in the battery of the intermediate node;

9   determining a power cost associated with each route according <u>to</u> the

10   residual power of the intermediate nodes; ~~and~~

11   sending a reply packet to the source node, the reply packet including

12   the address of the intermediate node and the power cost;

13   <u>determining a delay cost associated with each route;</u>

14   <u>selecting a particular route having a least delay cost;</u>

15   <u>including the least delay cost in each transmitted packet;</u> and

16   repeating the broadcasting , receiving, measuring, determining and the

17   sending until the request packet reaches the destination node;

18   constructing a route in a routing table in the source node from the

19   reply packets, the route having the associated power cost;

20   selecting a particular route for transferring a data packet from the

21   source node to the destination node, the particular route having a least power

22   cost; and

23   including the particular route in a routing table in a packet, in which

24   the routing table is an ordered list of intermediate node addresses; and

25   transmitting each packet in the network using the DSR, and in which

26   each packet includes the routing table.

1   12. (currently amended) A wireless network including a plurality of battery

2   operated nodes, comprising:

3   means for discovering a plurality of routes from a destination node to

4   a source node via intermediate nodes of the network using dynamic source

5   routing (DSR);

6   means for measuring a residual power in the battery of each

7   intermediate node;

8   means for determining a power cost associated with each route

9   according to the residual power of the intermediate nodes; and

10   means for selecting a particular route for transferring data from the source

11   node to the destination node, the particular route having a least power cost,

12   in which the particular route is included in a routing table in a packet, in

13   which the routing table is an ordered list of intermediate node addresses;

14   determining a delay cost associated with each route;

15   selecting a particular route having a least delay cost;

16   including the least delay cost in each transmitted packet and each

17   packet in the network using the dynamic source routing DSR, and in which

5

18   each packet includes the routing table.

1   13. (previously presented) The method of claim 1, in which the routing table

2   includes a delay cost and the power cost of the route.

1   14. (previously presented). The method of claim 1, further comprising:

2   updating the routing table in each packet when the packet is

3   transmitted.

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5   15. (new) The method of claim 1, further comprising:

6   including, in each packets, an amount of residual power in each node

7   along the particular route.

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